CONTENTS

271 ANDERSEN, SIGURD and ANDERSEN, KIRSTEN: Linkage between marker genes on barley chromosome 2 and a gene for resistance to *Heterodera avenae*

17 ASKER, SVEN and FRÖST, SUNE: Thin-layer chromatographic studies of phenolics in oats

305 BECKMAN, G.: Population studies in northern Sweden VI. Polymorphism of superoxide dismutase

31 BECKMAN, G., BECKMAN, L. and TÄRNVIK, A.: Isozymes and gene expression in different kinds of human blood cells

253 BECKMAN, L., CEDERGREN, B. and RASMUSON, M.: Population studies in northern Sweden V. Regional heterogeneity of the A_2 blood group gene frequency

27 CEDERGREN, B.: Population studies in northern Sweden IV. Frequency of the blood type p

291 CHRISTIANSEN, FREDDY B., FRYDENBERG, OVE and SIMONSEN, VIBEKE: Genetics of *Zoarces* populations IV. Selection component analysis of an esterase polymorphism using population samples including mother-offspring combinations

51 DÄVRING, LARS and SUNNER, MARGARETA: Female meiosis and embryonic mitosis in *Drosophila melanogaster* I. Meiosis and fertilization

247 EICHE, ANDRIEVS: Somatic resistance to X-ray treatment in *Drosophila melanogaster* populations with different irradiation backgrounds

185 ERIKSSON, GÖSTA, SCHELANDER, BERTIL and ÅKEBRAND, VERNER: Inbreeding depression in an old experimental plantation of *Picea abies*

153 FREDGA, KARL: A new chromosome race of the common shrew (*Sorex araneus*) in Sweden

233 FRYDENBERG, OVE, GYLDENHOLM, A. O., HJORTH, J. P. and SIMONSEN, VIBEKE: Genetics of *Zoarces* populations III. Geographic variations in the esterase polymorphism *Est III*

211 GEDDE-DAHL JR, TOBIAS: Population structure in Norway. Inbreeding, distance and kinship

1 GUSTAFSSON, ÅKE, EKMAN, GUNNAR and DORMLING, INGEGERD: Vigour and variability of phytotron-cultivated monohybrid barley. Additional information

65 HANSEN, K. M.: Heterochromatin (C bands) in bovine chromosomes

152 — Identification of goat chromosomes by the quinacrine mustard fluorescence technique

85 KARLSSON, JON LÖVE: Genetic relationship between giftedness and myopia

157 KRUSE, ANTHON: *Hordeum* × *Triticum* hybrids

316 LARSEN, J. and KIMBER, G.: The arm ratio of chromosome 5B from *Triticum aestivum* var. Chinese Spring at mitosis and meiosis

318 LEVAN, GÖRAN, MITELMAN, FELIX and MARK, JOACHIM: Isozymes of experimentally induced primary sarcomas in the rat

99 LIMA-DE-FARIA, A., DASKALOFF, STEFAN and ENELL, ANNASTINA: Amplification of

ribosomal DNA in *Acheta* I. The number of chromomeres involved in the amplification process

119 LIMA-DE-FARIA, A., GUSTAFSSON, THOMAS and JAWORSKA, HALINA: Amplification of ribosomal DNA in *Acheta* II. The number of nucleotide pairs of the chromosomes and chromomeres involved in amplification

163 LIMA-DE-FARIA, A., JAWORSKA, HALINA, GUSTAFSSON, THOMAS and DASKALOFF, STEFAN: Amplification of ribosomal DNA in *Acheta* III. The release of DNA copies from chromomeres

285 MERKER, ARNULF: Cytogenetic investigations in hexaploid *Triticale* II. Meiosis and fertility in F_1 and F_2

259 NILSSON, BIRGIT: A bibliography of literature concerning chromosome identification — with special reference to fluorescence Giemsa staining techniques

11 NØRBY, SØREN: The biochemical genetics of rudimentary mutants of *Drosophila melanogaster* I. Aspartate carbamoyltransferase levels in complementing and non-complementing strains

41 OREL, VÍTĚZSLAV: The enigma of hybrid constancy in Mendel's *Pisum* paper perceived by Albert Blomberg in 1872

195 PERO, RONALD, LIMA-DE-FARIA, A., STÅHLE, ULF, GRANSTRÖM, HELEN and GHATNEKAR, RANGNATH: Amplification of ribosomal DNA in *Acheta* IV. The number of cistrons for 28S and 18S ribosomal RNA

71 RASMUSON, MARIANNE and LJUNG, ANDERS: Fitness and fitness components for a two-allele system in *Drosophila melanogaster*

277 REUTERWALL, CHRISTINA and RYMAN, NILS: An estimate of the magnitude of additive genetic variation of some mental characters in Alsatian dogs

89 RUDIN, D. and RASMUSON, B.: Genetic variation in esterases from needles of *Pinus silvestris* L.

311 SIDDIQI, B. A.: EMS-induced mitotic recombination in a diploid, heterozygous for two complementing *ade2* alleles of *Saccharomyces cerevisiae*

45 SIDDIQUI, K. A.: Induced mutations in *Triticum aegilopoides*, *Aegilops ventricosa* and their synthetic allopolyploid

143 SORSA, VEIKKO: Whole mount electron microscopy of small chromomeres in salivary gland chromosomes of *Drosophila melanogaster*

147 — Whole mount electron microscopy of fibril-rings in alkali-urea treated salivary gland chromosomes of *Drosophila melanogaster*

312 — Fibril rings in alkali-urea treated polytene chromosomes of *Drosophila hydei*

239 STRØMAN, PER, BAHN, ERIK, NØRBY, SØREN and SICK, KNUD: 6-azauracil induced phenocopies of rudimentary wing mutants and their suppression by a suppressor mutant of rudimentary in *Drosophila melanogaster*

HEREDITAS

PUBLISHED BY THE MENDELIAN SOCIETY OF LUND

FOR THE SCANDINAVIAN ASSOCIATION OF GENETICISTS

EDITOR: ARNE MÜNTZING

BERLINGSKA BOKTRYCKERIET, LUND, SWEDEN

VOLUME

74

1973

DATES OF ISSUE
Vol. 74: 1 (pages 1—160) July 15, 1973
Vol. 74: 2 (pages 161—308) October 17, 1973

CONTENTS

81 AULA, PERTTI: Virus-induced premature chromosome condensation (PCC) in single cells and G-bands of PCC-chromatin

291 DE LA CHAPELLE, ALBERT and SCHRÖDER, JIM: Autoradiographically identified karyotype 49, XXXXY, t(4; 11) (q35; q23) confirmed by banding

293 DOLL, HANS: Inheritance of the high-lysine character of a barley mutant

144 ENGVILD, K. C.: Triploid petunias from anther cultures

141 FRIEDRICH, URSULA and NIELSEN, JOHANNES: Break points in reciprocal autosomal translocations

304 FRÖST, SUNE and HOLM, GEKHARD: A new phylogenetic approach in barley

137 GILLIES, C. B. and HYDE, BEAL B.: Intranucleolar bodies in maize pachytene microsporocytes

119 GUSTAFSSON, ÅKE, DORMLING, INGEGERD and EKMAN, GUNNAR: Phytotron ecology of mutant genes I. Heterosis in mutant crossings of barley

247 — Phytotron ecology of mutant genes II. Dynamics of heterosis in an intralocus mutant hybrid of barley

69 HALKKA, O., HALKKA, L., RAATIKAINEN, M. and HOVINEN, R.: The genetic basis of balanced polymorphism in *Philaenus* (Homoptera)

259 HENEEN, W. K. and CASPERSSON, T.: Identification of the chromosomes of rye by distribution patterns of DNA

57 HOLMBERG, MATS and JONASSON, JON: Preferential location of X-ray induced chromosome breakage in the R-bands of human chromosomes

169 JAWORSKA, HALINA and LIMA-DE-FARIA, A.: Amplification of ribosomal DNA in *Acheta* VI. Ultrastructure of two types of nucleolar components associated with ribosomal DNA

187 — Amplification of ribosomal DNA in *Acheta* VII. Transfer of DNA–RNA assemblies from the nucleus to the cytoplasm

205 JAWORSKA, HALINA, AVANZI, SILVANA and LIMA-DE-FARIA, A.: Amplification of ribosomal DNA in *Acheta* VIII. Binding of H^3-actinomycin to DNA in the nucleus and cytoplasm

31 KVELLAND, INGERID: Bromodeoxyuridine-labeled bacteriophage T4D II. Frequency of markers recovered from BUdR-labeled and from non-labeled phages studied in single burst experiments

225 LOKKI, JUHANI, SORSA, MARJA, FORSÉN, KAJ and v. SCHANTZ, MAX: Genetics of monoterpenes in *Chrysanthemum vulgare* I. Genetic control and inheritance of some of the most common chemotypes

161 LUNDQVIST, ARNE, ØSTERBYE, ULLA, LARSEN, KNUD and LINDE-LAURSEN, IB: Complex self-incompatibility systems in *Ranunculus acris* L. and *Beta vulgaris* L.

1 MERKER, ARNULF: Identification of aneuploids in a line of hexaploid *Triticale*

7 — Segregation of chromosome constitution and fertility in progenies of selfed monosomics and monotelodisomics in hexaploid *Triticale*

273 MORAD, MOHAMED, JONASSON, JON and LINDSTEN, JAN: Distribution of mitomycin C induced breaks on human chromosomes
41 MÜNTZING, ARNE: Effects of accessory chromosomes of rye in the gene environment of hexaploid wheat
127 NEVANLINNA, H. R.: Further evidence of the inhabitation in a marginal population
152 RASMUSON, MARIANNE and ÅSLUND, SVEN-ERIK: Mating behaviour and chaete number in *Drosophila melanogaster*
155 REITALU, JUHAN: A familial Y-22 translocation in man
239 RYMAN, NILS: Two-way selection for body weight in the guppy-fish, *Lebistes reticulatus*
233 SARMA, N. P. and NATARAJAN, A. T.: Identification of heterochromatic regions in the chromosomes of rye
89 SORSA, MARJA and PFEIFER, SUSAN: Response of puffing pattern to in vivo treatments with organomercurials in *Drosophila melanogaster*
133 SORSA, VEIKKO: Chromatin fibril size in salivary gland chromosomes of *Drosophila melanogaster*
147 — Core fibrils in early mitotic prophase chromosomes of *Drosophila melanogaster*
297 — Ultrastructure of the 5S RNA locus in salivary gland chromosomes of *Drosophila melanogaster*
302 SUOMALAINEN, ESKO, COOK, LAURENCE M. and TURNER, JOHN R. G.: Achiasmatic oogenesis in the Heliconiine butterflies
25 TRIANTAPHYLLIDIS, COSTAS D., CHRISTODOULOU, C. and BECKMAN, L.: Polymorphism at two esterase loci in *Drosophila melanogaster* from northern Greece
13 ULLMAN, JOHN S., LIMA-DE-FARIA, A., JAWORSKA, HALINA and BRYNGELSSON, TOMAS: Amplification of ribosomal DNA in *Acheta* V. Hybridization of RNA complementary to ribosomal DNA with pachytene chromosomes
295 VALENTIN, JACK: Selection for altered recombination frequency in *Drosophila melanogaster*
103 WEIMARCK, ANNA: Cytogenetic behaviour in octoploid *Triticale* I. Meiosis, aneuploidy and fertility
211 WIGH, KAI: Accessory chromosomes in some mosses
283 ZEUTHEN, E., NIELSEN, J. and YDE, H.: XYY males found in a general male population. Cytogenetic and physical examination

HEREDITAS

PUBLISHED BY THE MENDELIAN SOCIETY OF LUND

FOR THE SCANDINAVIAN ASSOCIATION OF GENETICISTS

EDITOR: ARNE MÜNTZING

BERLINGSKA BOKTRYCKERIET, LUND, SWEDEN

VOLUME

75

1973

DATES OF ISSUE
Vol. 75: 1 (pages 1—156) December 10, 1973
Vol. 75: 2 (pages 157—282) December 31, 1973

CONTENTS

67 ÁRNASON, ÚLFUR and BENIRSCHKE, KURT: Karyotypes and idiograms of sperm and pygmy sperm whales

138 BECKMAN, G., BECKMAN, L. and NILSSON, L.-O.: A rare homozygous phenotype of superoxide dismutase, SOD 2

23 EICHE, ANDRIEVS: Genetic load in a repeatedly irradiated *Drosophila melanogaster* population

29 — Localization of genes controlling radioresistance in *Drosophila melanogaster*

201 FRÖST, SUNE and ASKER, SVEN: Further studies of flavonoid patterns in barley

221 FRYDENBERG, OVE and SIMONSEN, VIBEKE: Genetics of *Zoarces* populations V. Amount of protein polymorphism and degree of genic heterozygosity

189 GRANBERG, INGRID, GUPTA, SUBHASH and ZECH, LORE: Chromosome analyses of a metastatic gastric carcinoma including quinacrine fluorescence

75 GUSTAFSSON, ÅKE, DORMLING, INGEGERD and EKMAN, GUNNAR: Phytotron ecology of mutant genes III. Growth reactions of two quantitative traits in barley

153 GUSTAVSSON, I., HAGELTORN, M., ZECH, L. and REILAND, S.: Identification of the chromosomes in a centric fusion/fission polymorphic system of the pig (*Sus scrofa* L.)

61 HAAPALA, O. K.: The organization of chromosome fibrils in salivary-gland chromosomes of *Drosophila melanogaster*. Light microscopical observations of the effect of acetic acid

144 HAGELTORN, MATTS and GUSTAVSSON, INGEMAR: Giemsa staining patterns for identification of the pig mitotic chromosomes

147 HAGELTORN, M., GUSTAVSSON, I. and ZECH, L.: The Q- and G-banding patterns of a t(11 p+; 15 q−) in the domestic pig

119 HANSEN, K. M.: Q-band karyotype of the goat (*Capra hircus*) and the relation between goat and bovine Q-bands

233 — The karyotype of the domestic sheep (*Ovis aries*) identified by quinacrine mustard staining and fluorescence microscopy

259 JONASSON, JON and HOLMBERG, MATS: Evidence for an inverse relationship between X-ray induced chromatid and chromosome breakage in human chromosomes

241 KÄÄRIÄINEN, RISTO: The factor analytic, logarithmic and optimum solutions in separating heterozygous carriers and normal control subjects in phenylketonuria

109 KÄÄRIÄINEN, RISTO and KARLSSON, ROLF: Heterozygous carriers in the relatives of a case of phenylketonuria

151 LUNDIN, LARS-G.: Breeding of *Psammechinus miliaris* in laboratory cultures and outline of a genetic program

213 MARK, JOACHIM: Karyotype patterns in human meningiomas. A comparison between studies with G- and Q-banding techniques

280 MERKER, ARNULF: A Giemsa technique for rapid identification of chromosomes in *Triticale*

131 NIELSEN, JOHANNES, HREIDARSSON, ÁSTRÁDUR B. and CHRISTENSEN, KIRSTEN RIBER: D/D translocations in patients with mental illness
251 NILSSON, BIRGIT, LARSSON, MARGARETA and v. HOFSTEN, ANGELICA: Chromosomes and DNA bodies of *Acheta desertus* (Orthoptera). With parallels to *Acheta domesticus*
277 NILSSON, K. and KIHLMAN, B. A.: Caffeine, caffeine derivatives and chromosomal aberrations VI. The influence of temperature on the aberration-frequency induced during prophase and late G_2 by 8-methoxycaffeine and 8-chlorocaffeine in Chinese hamster cells
267 PORTIN, PETTER and SUORMALA, TERTTU: Timing of meiotic crossing-over in *Drosophila melanogaster*
140 PURO, JAAKKO: Tricomplex, a new type of autosome complement in *Drosophila melanogaster*
33 SAURA, ANSSI, LAKOVAARA, SEPPO, LOKKI, JUHANI and LANKINEN, PEKKA: Genic variation in central and marginal populations of *Drosophila subobscura*
157 SIMONSEN, ØYSTEIN: Cyto-genetic investigations in diploid and autotetraploid populations of *Lolium perenne* L.
273 SORSA, MARJA and PFEIFER, SUSAN: Effects of cadmium on development time and prepupal puffing pattern of *Drosophila melanogaster*
101 SORSA, VEIKKO: Condensation of chromosomes during mitotic prophase. Whole mount electron microscopy of cerebral ganglion cells of *Drosophila*
195 TALLBERG, ANNELI: Ultrastructure and protein composition in high-lysine barley mutants
47 TIGERSTEDT, P. M. A.: Studies on isozyme variation in marginal and central populations of *Picea abies*
1 VALENTIN, JACK: Heritability of recombination frequency. Observations on statistical complications and report on small-scale tests in *Drosophila*
5 — Characterization of a meiotic control gene affecting recombination in *Drosophila melanogaster*
207 VIINIKKA, YRJÖ: The occurrence of B chromosomes and their effect on meiosis in *Najas marina*
83 WIBERG, A.: Mutants of barley with induced resistance to powdery mildew
136 ZEUTHEN, EVA, NIELSEN, JOHANNES and NIELSEN, ARNE: Prevalence of Down's syndrome